Rock Island Arsenal Continuous Improvement in Safety Performance FY 2004

Jerry Golden
Chief, Safety Office
goldenj@ria.army.mil

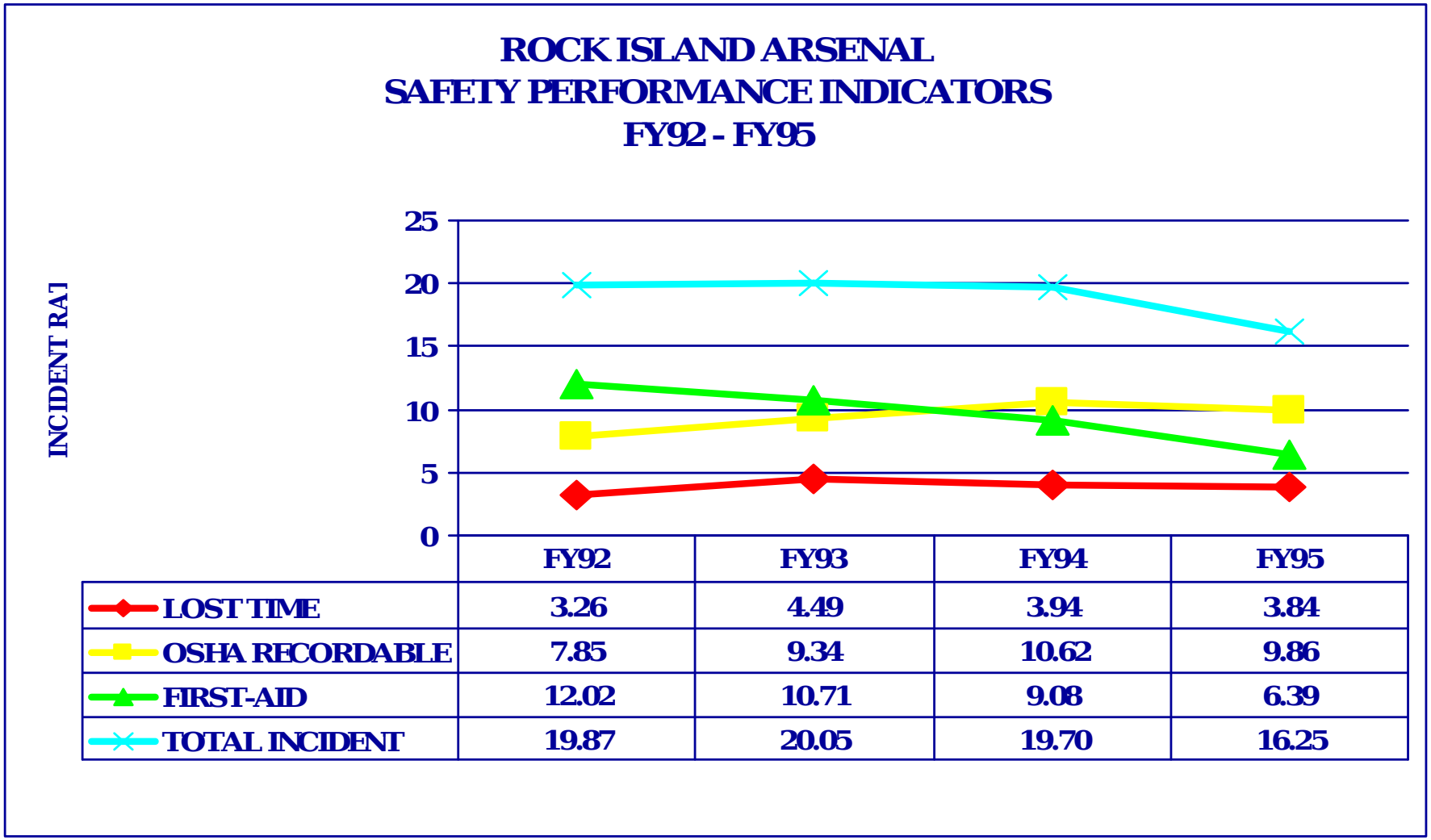
Briefing Agenda

- ✔ Program Justification
- ✔ What is the CISP Program
- ✔ The Intent of the CISP Program
- ✔ The CISP Process
- ✔ Action Plans
- ✔ Expectations of the CISP Program
- ✔ Safety Metrics
- ✔ Safety Performance Profile
- ✔ Accident Investigations
- ✔ Associated Cost
- ✔ Cost Avoidance
- ✔ Cost Per Employee

Program Justification

- ✔ **Analysis of FY 1992 to FY 1995 concluded that:**
  - ➤ **No significant improvements in incident rates.**
  - **Majority of injury experiences were of the more serious type (Lost Time, OSHA Recordable).**
  - **Associated Costs (Medical, COP, Compensation, etc.) would continue to increase.**
- ✔ **Analysis showed the need to refocus on:**
  - **Accountability for Accident Prevention.**
  - **Development of Accident Prevention Strategies.**
  - **Increasing Safety Awareness.**
  - **Increasing Employee Involvement.**
  - **Setting Safety Performance Goals and Objectives.**

Program Justification



	FY92	FY93	FY94	FY95
LOST TIME	3.26	4.49	3.94	3.84
OSHA RECORDABLE	7.85	9.34	10.62	9.86
FIRST-AID	12.02	10.71	9.08	6.39
TOTAL INCIDENT	19.87	20.05	19.70	16.25

What is the CISP Program

- ✔ **Concept: Management By Objective (MBO)**
- ✔ **Approach: Structured and Disciplined**
  - ➤ **Command Support**
  - **Setting Safety Performance Goals**
  - **Identifies Major Problem Areas**
  - **Action Planning (Objectives)**
  - **Accountability for Results**
- ✔ **Results: Continuous Improvement in Safety Performance**

The Intent of the CISP Program

- ✔ **Establishes reasonable, attainable, and measurable safety performance goals at Directorate and Division levels.**
- ✔ **Improves Safety Performance by strengthening accident prevention strategies, before and after the fact.**
- ✔ **The development of Action Plans that specify objectives to meet specific performance goals and defines and assigns accountability for results at all employee levels, management and labor, alike.**
- ✔ **Continuous Improvement in Safety Performance.**

The CISP Process

- ✔ **Preview Previous Years Safety Performance**
- ✔ **Commander's Establishes Goals for FY**
  - ➤ **Incident Rates**
  - **Associated Costs (Medical, COP, Compensation, etc.)**
- ✔ **Development of Safety Performance Profiles**
  - **Directorate / Division / Offices**
- ✔ **Conduct Briefing of Safety Performance Profiles**
  - **Detailed Analysis of Previous Years Incidents**

The CISP Process

- ✔ **Directorate / Division / Offices Assign Accountability for Goals**
  - **Incident Rates / Special Initiatives**
- ✔ **Implement the Action Plan**
- ✔ **Monitor and Evaluate Progress of Action Plan**
  - **Compliance with Implementation**
  - **Assess Safety Performance**
  - **Make Necessary Adjustments**
- ✔ **Reporting Results**
  - **Quarterly Reviews with Commander / Director**
  - **Safety Office provides Monthly Safety Performance Updates**

Action Plans

- **Directorate / Division Actions Plans:**
  - **Injury / Illness Incident Rates are compatible with Commander's Goals and Objectives.**
  - **<u>Who</u> will be accountable / responsible for implementing the action plan.**
  - **<u>What</u> objectives will be implemented to address problem areas.**
  - **<u>When</u> the objectives will be implemented.**
  - **<u>How</u> the objectives will be measured and monitored to evaluate progress and effectiveness.**
- **Safety Office will conduct periodic reviews of Action Plans.**

Expectations of the CISP Program

- ✔ **Continuous Improvement in Safety Performance**
  - ➤ **Fewer Employees Injured and Less Severely**
  - **Reduced Incident Rates**
- ✔ **Reduced Current and Future Associated Costs (Medical, COP, Compensation, etc.)**
  - **Positive Impact on Profitability**
  - **Compensation Cost Avoidance**
- ✔ **Increased Accountability for Accident Prevention**
  - **Intervention at the Right Level**

Expectations of the CISP Program

- ✔ **Ability to Successfully Benchmark Against World-Class Organizations**
  - ➤ **Lost Time Frequency Rates Less Than 1**
- ✔ **Increased Productivity and Overall Efficiency**
  - **Improved Reputation**
  - **Increased Competitive Posture**
- ✔ **Reduces Possible Audits from Other Agencies**
  - **OSHA**
- ✔ **Increased Employee Morale**

Definitions

- **Lost Time Injury: A work related injury or illness involving one or more full days away from work beyond the date of occurrence.**
- **OSHA Recordable Injury: All work related injuries and illnesses, and those injuries that result in loss of consciousness, lost workdays (days away from work and/or restricted activity), transfer to another job, or require medical treatment beyond simple first-aid.**

Definitions

- **First-Aid Injury: Any injury one-time treatment and subsequent observation of minor scratches, cuts, burns, splinters, and so forth, that do not ordinarily require medical treatment.**
- **Severity Rate: The number of lost workdays away from work per 200,000 hours worked.**

Safety Metrics

Frequency Rates

Calculating Frequency Rates:

Frequency Rate = (Number of Incidents) x (200,000 Hours)*

Number of Exposure Hours

*** 200,000 Hours = (100 persons) x (2000 Hours) or 1 Man Year**

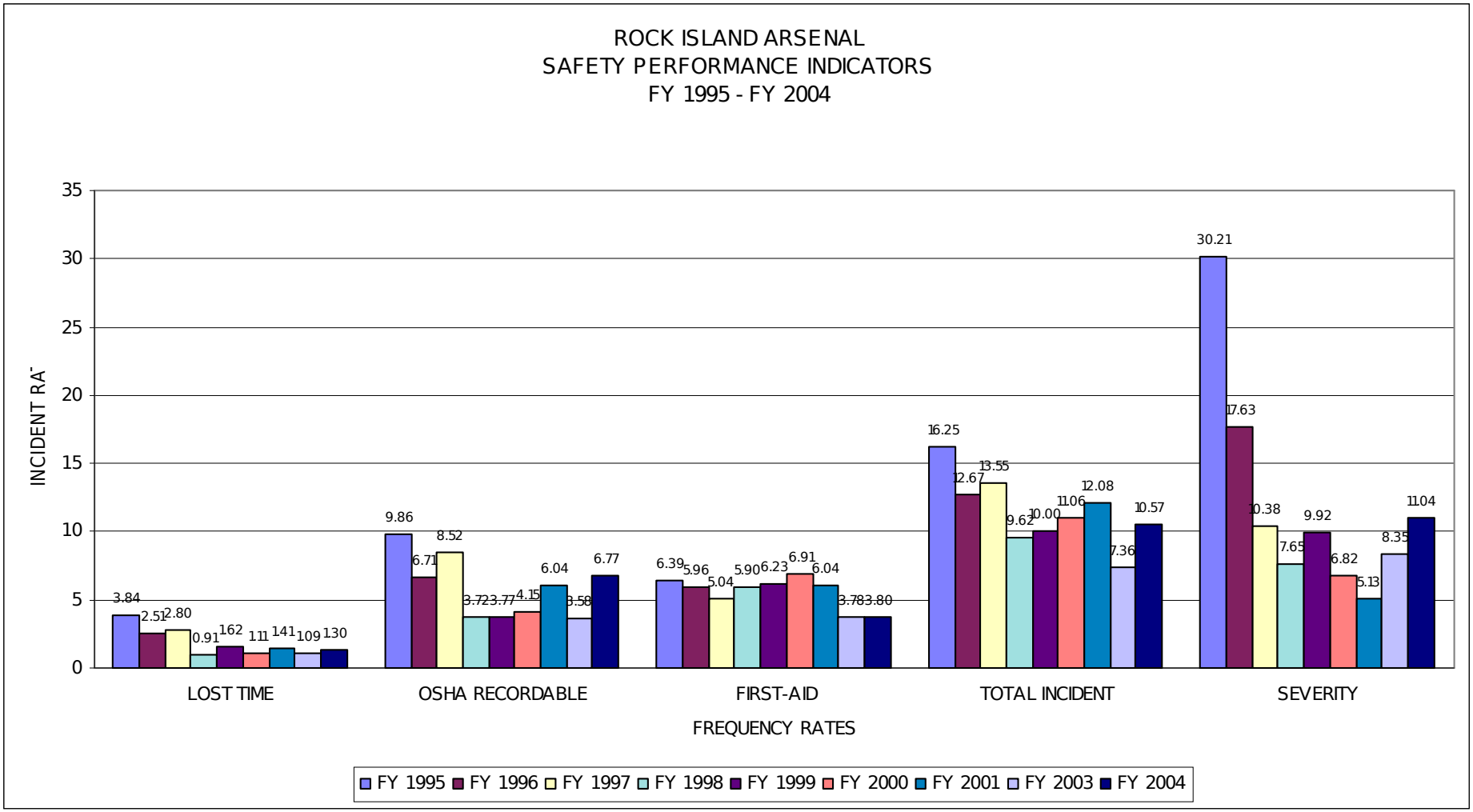
Example: FY 2004 Total Incident Rate

Total Incident Rate = (114) x (200,000 Hours)
2,156,514.9

= 11.04

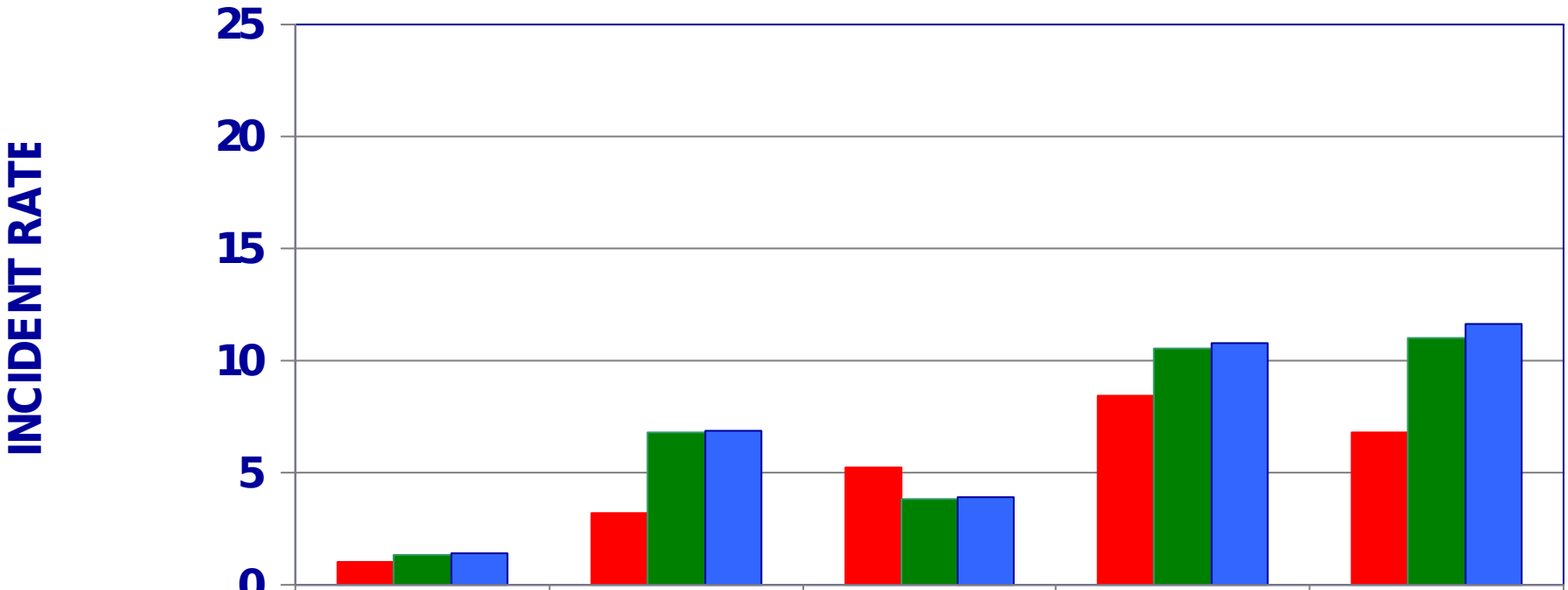
Cases and Frequency Rates

CASES	FY 1995	FY 1996	FY 1997	FY 1998	FY 1999	FY 2000	FY 2001	FY 2002	FY 2003	FY 2004
LOST TIME	72	43	45	13	21	12	14	10	11	14
OSHA RECORDABLE	185	115	137	53	49	45	60	41	36	69
FIRST-AID	120	102	81	84	81	75	60	44	38	44
TOTAL	305	217	218	137	130	120	120	85	74	113
LOST WORKDAYS	567	302	167	109	129	74	51	74	84	80
HOURS OF EXPOSURE	3,753,449.0	3,425,361.0	3,217,248.0	2,848,611.3	2,600,009.4	2,169,851.5	1,986,510.3	2,103,399.7	2,011,228.2	2,156,514.9
FREQUENCY RATES	FY 1995	FY 1996	FY 1997	FY 1998	FY 1999	FY 2000	FY 2001	FY 2002	FY 2003	FY 2004
LOST TIME	3.84	2.51	2.80	0.91	1.62	1.11	1.41	0.95	1.09	1.30
OSHA RECORDABLE	9.86	6.71	8.52	3.72	3.77	4.15	6.04	3.90	3.58	6.40
FIRST-AID	6.39	5.96	5.04	5.90	6.23	6.91	6.04	4.18	3.78	4.08
TOTAL INCIDENT	16.25	12.67	13.55	9.62	10.00	11.06	12.08	8.08	7.36	10.48
SEVERITY	30.21	17.63	10.38	7.65	9.92	6.82	5.13	7.04	8.35	7.42


ROCK ISLAND ARSENAL
SAFETY PERFORMANCE INDICATORS
FY 1995 - FY 2004
INCIDENT RATE
35
30
25
20
15
10
5
0
3.84
2.51
2.80
0.91
1.62
1.11
1.41
1.09
1.30
9.86
6.71
8.52
3.72
3.77
4.15
6.04
3.58
6.77
6.39
5.96
5.04
5.90
6.23
6.91
6.04
3.78
3.80
16.25
12.67
13.55
9.62
10.00
11.06
12.08
7.36
10.57
30.21
17.63
10.38
7.65
9.92
6.82
5.13
8.35
11.04
LOST TIME
OSHA RECORDABLE
FIRST-AID
TOTAL INCIDENT
SEVERITY
FREQUENCY RATES
FY 1995
FY 1996
FY 1997
FY 1998
FY 1999
FY 2000
FY 2001
FY 2003
FY 2004

RIA SAFETY PERFORMANCE
CEILING vs YTD vs AVERAGE
FY 2002

Status: RED



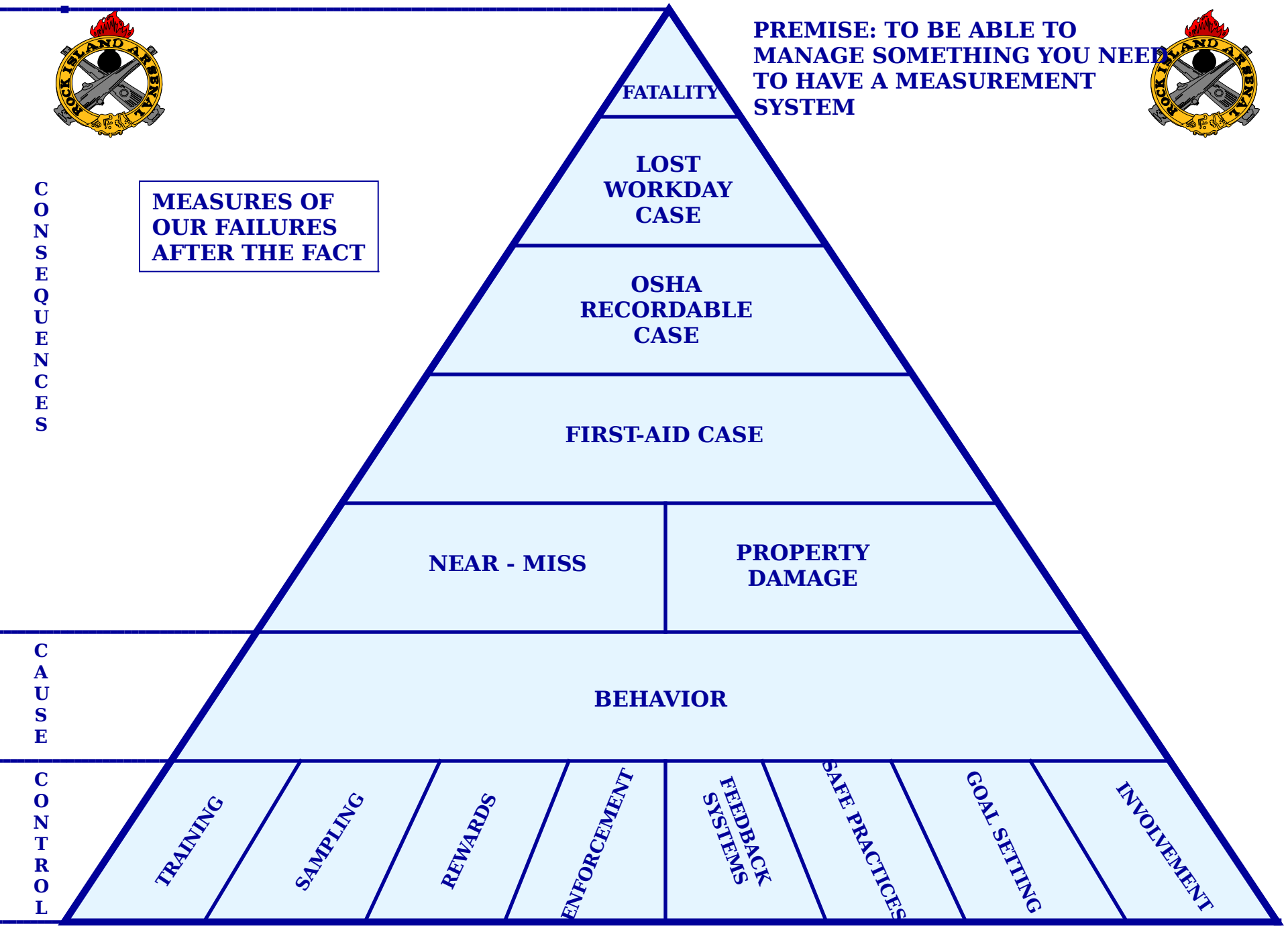
	LOST TIME	OSHA RECORDABLE	FIRST-AID	TOTAL INCIDENT	SEVERITY
CEILING	1.00	3.20	5.23	8.42	6.79
YTD	1.30	6.77	3.80	10.57	11.04
12 MONTH	1.38	6.87	3.91	10.78	11.64

Cases by Office Symbol

DESCRIPTION	COST CENTER	LOST TIME	OSHA RECORDABLE	FIRST-AID	TOTAL INCIDENT	LOST DAYS
RIA FY 2004 - ALL	01000 - D9900	14	70	43	113	119
RIA MISSION	A0000 - D9900	11	59	40	99	113
CO	A0000	0	0	0	0	0
QM	G0000	0	0	0	0	0
RM	H0000	0	0	0	0	0
SE	J 0000-J 5000	0	1	1	2	0
BD	F0000-F2000	0	1	0	1	0
LD	B0000-B3300	1	4	5	9	1
MS	C0000	0	0	0	0	0
PD	D0000-D9900	10	53	34	87	112
RIA GARRISON	01000-17100	3	11	3	14	6
GM	01000	0	0	0	0	0
CF	02000-02650	0	0	0	0	0
GC	03000	0	0	0	0	0
IA	04000	0	0	0	0	0
EO	06000	0	0	0	0	0
SF	07000	0	0	0	0	0
RG	11000	0	0	0	0	0
PW	13000-13410	1	3	1	4	1
FP	15000-15300	2	8	2	10	5
IT	17000-17100	0	0	0	0	0

PREMISE: TO BE ABLE TO MANAGE SOMETHING YOU NEED TO HAVE A MEASUREMENT SYSTEM

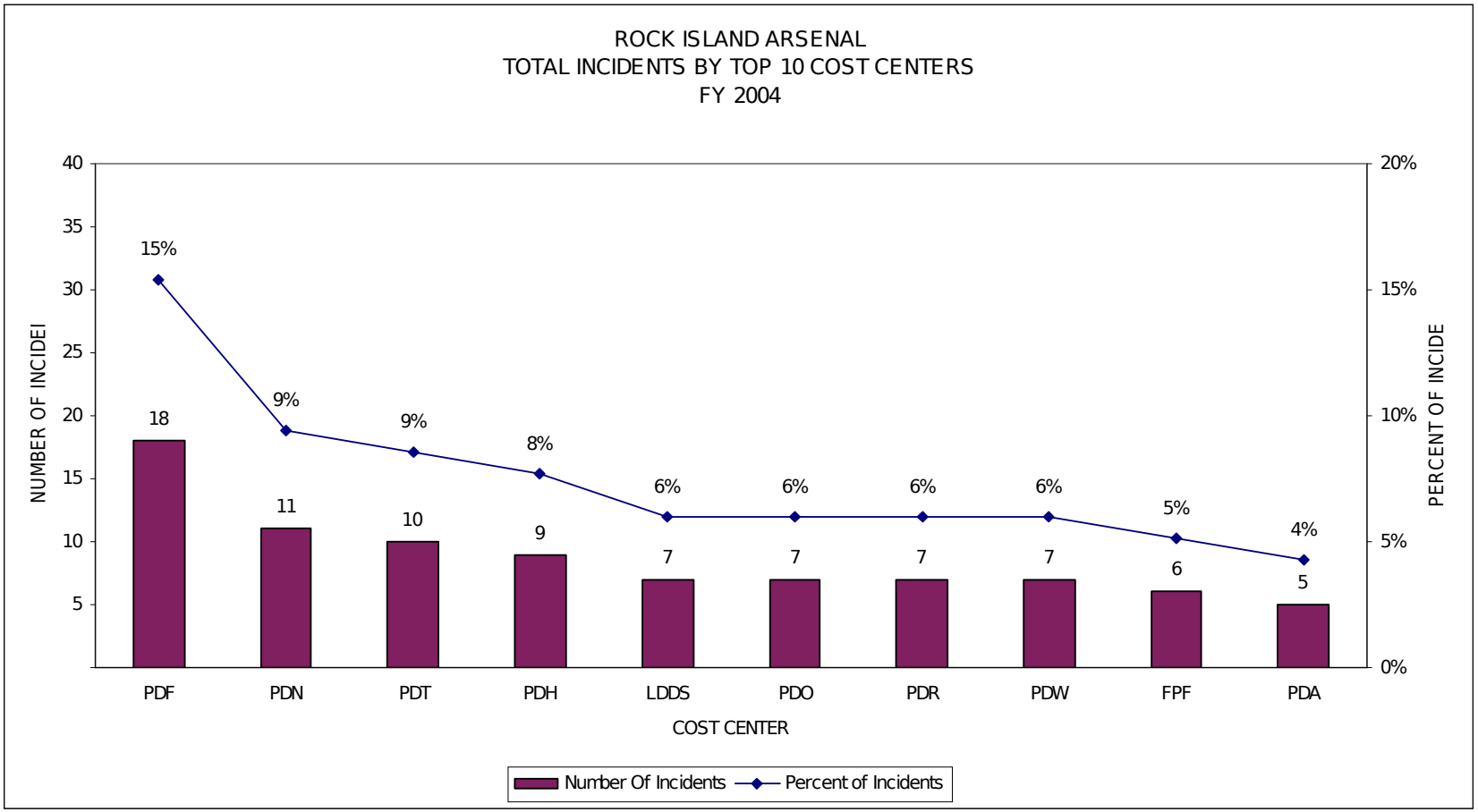
MEASURES OF OUR FAILURES AFTER THE FACT

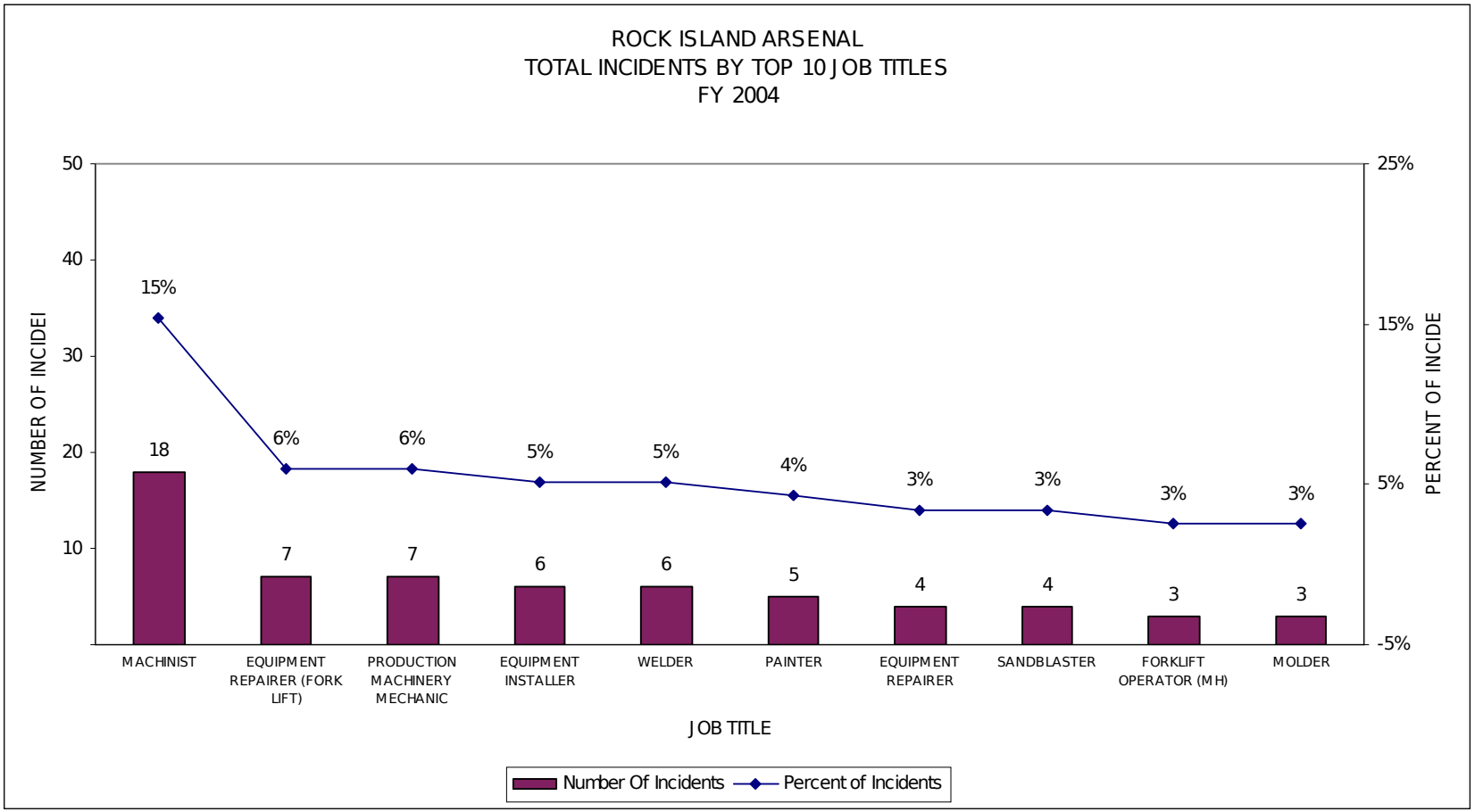


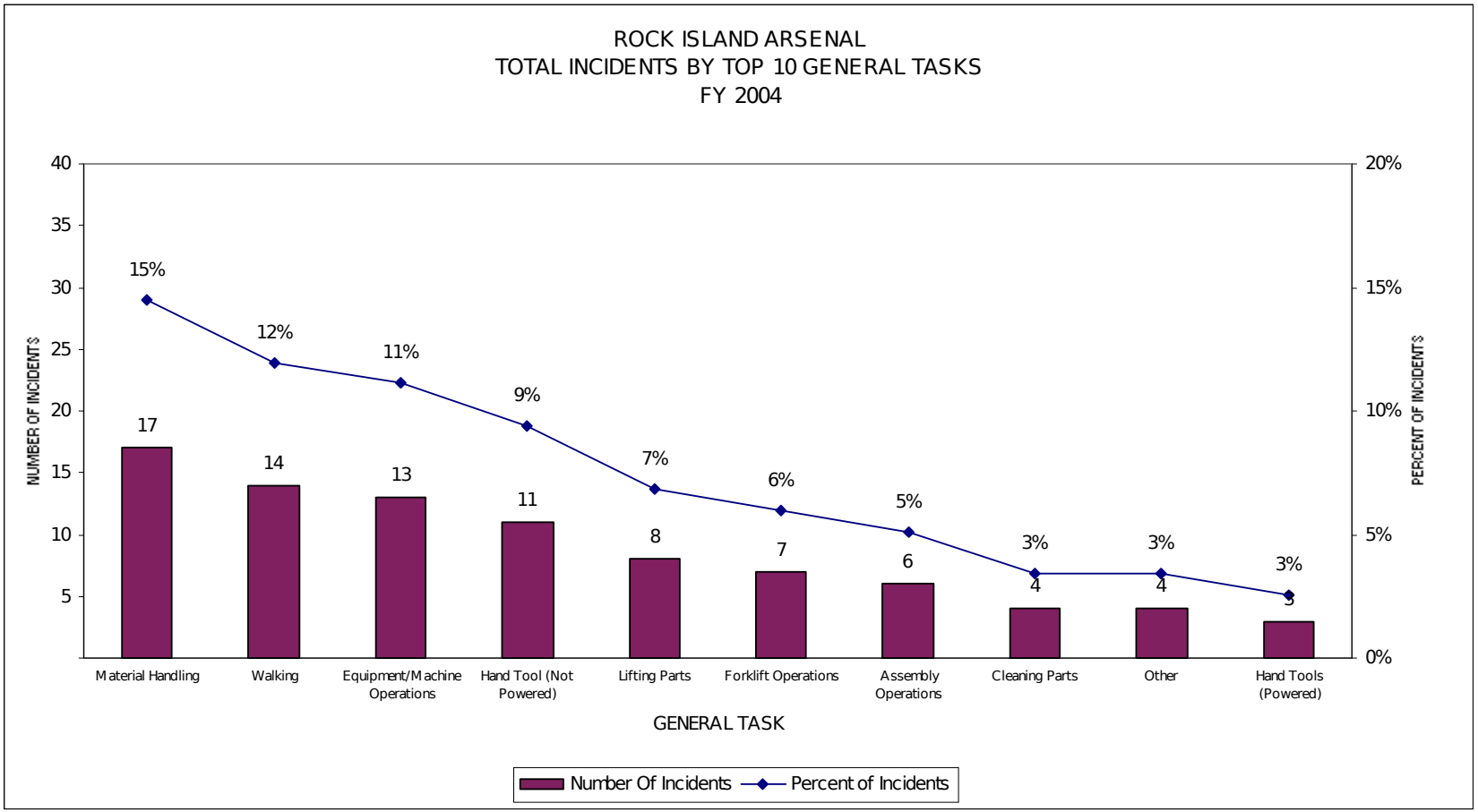
Safety Performance Profile

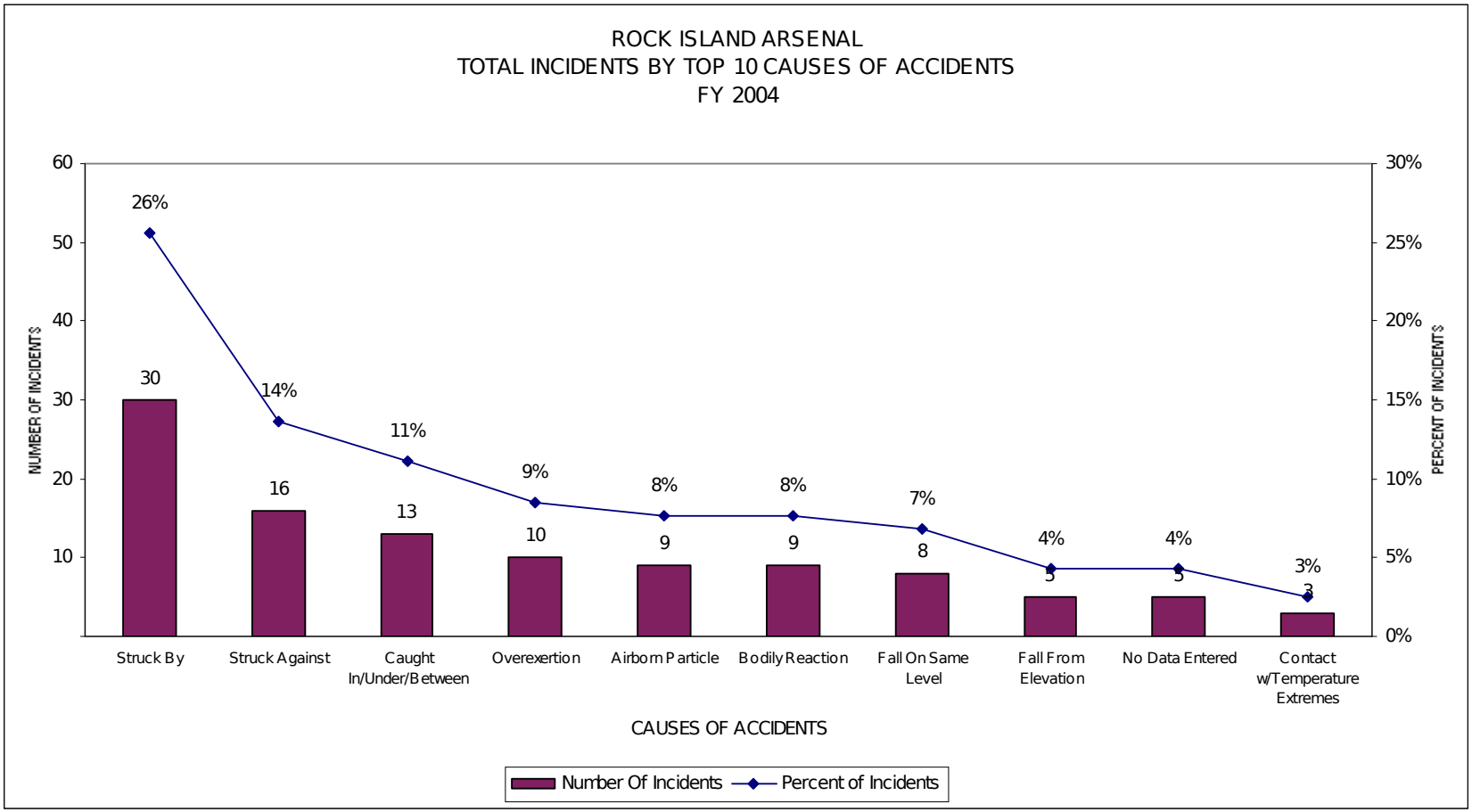
Current Safety Performance

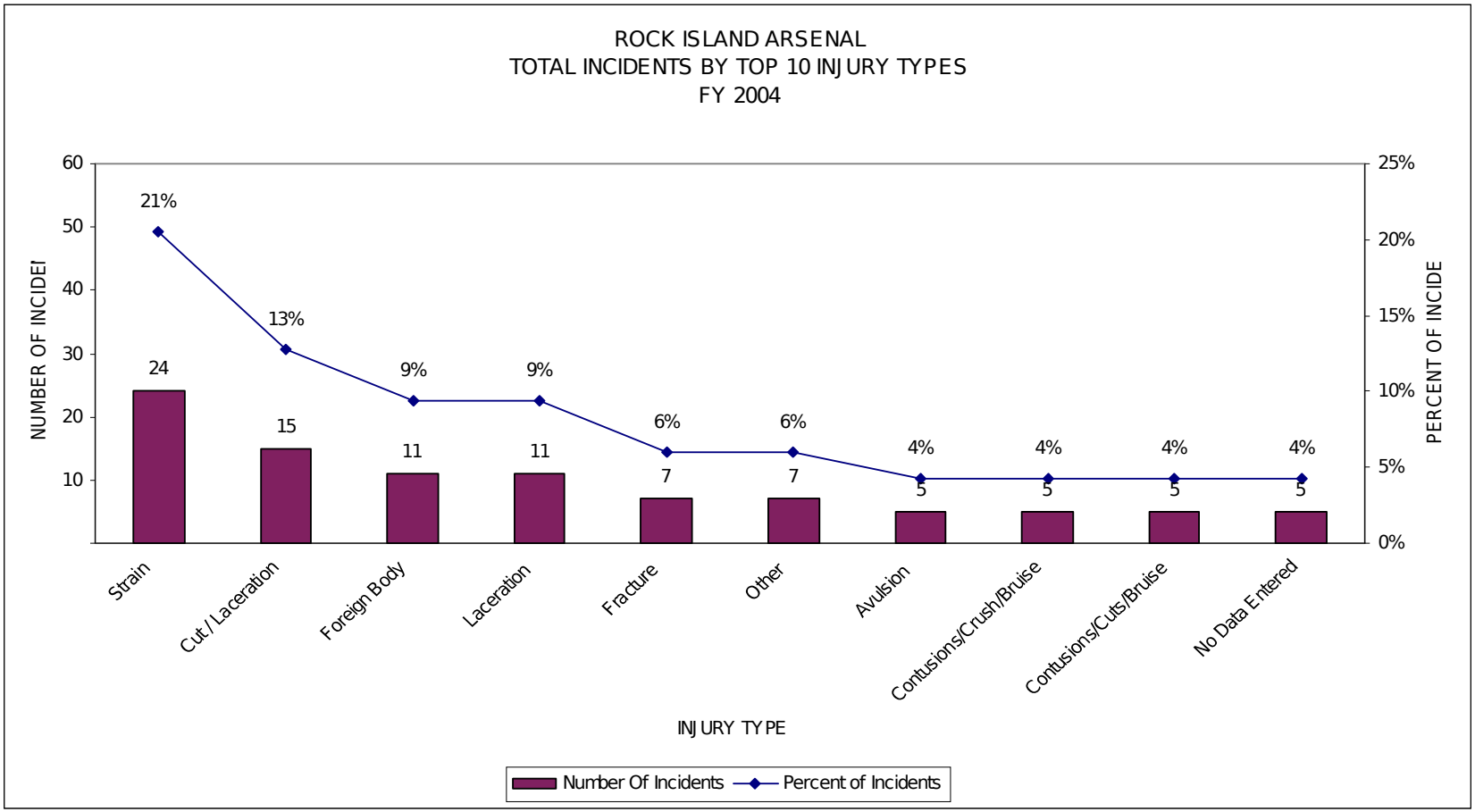
- ✔ **RIA Safety Performance Profile**
  - ➤ **Analysis by Top 10:**
    - **Cost Centers**
    - **Job Titles**
    - **General Tasks**
    - **Accident Types**
    - **Injury Types**
    - **Body Parts**
    - **Injury Sources**
    - **General Location**
    - **Time of Day**

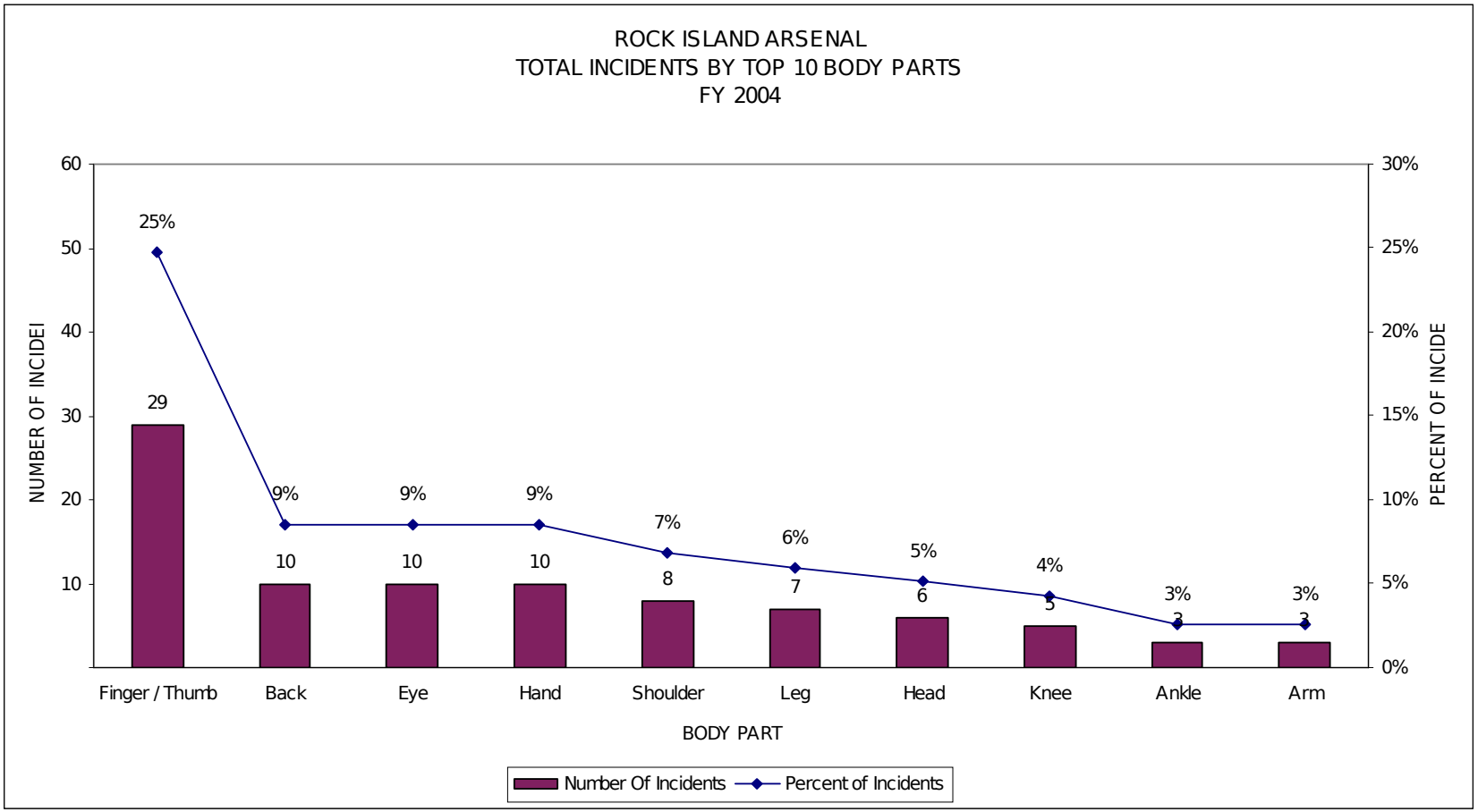

ROCK ISLAND ARSENAL
TOTAL INCIDENTS BY TOP 10 COST CENTERS
FY 2004
NUMBER OF INCIDEI
PERCENT OF INCIDE
COST CENTER
PDF
PDN
PDT
PDH
LDDS
PDO
PDR
PDW
FPF
PDA
18
11
10
9
7
7
7
7
6
5
15%
9%
9%
8%
6%
6%
6%
6%
5%
4%
Number Of Incidents
Percent of Incidents

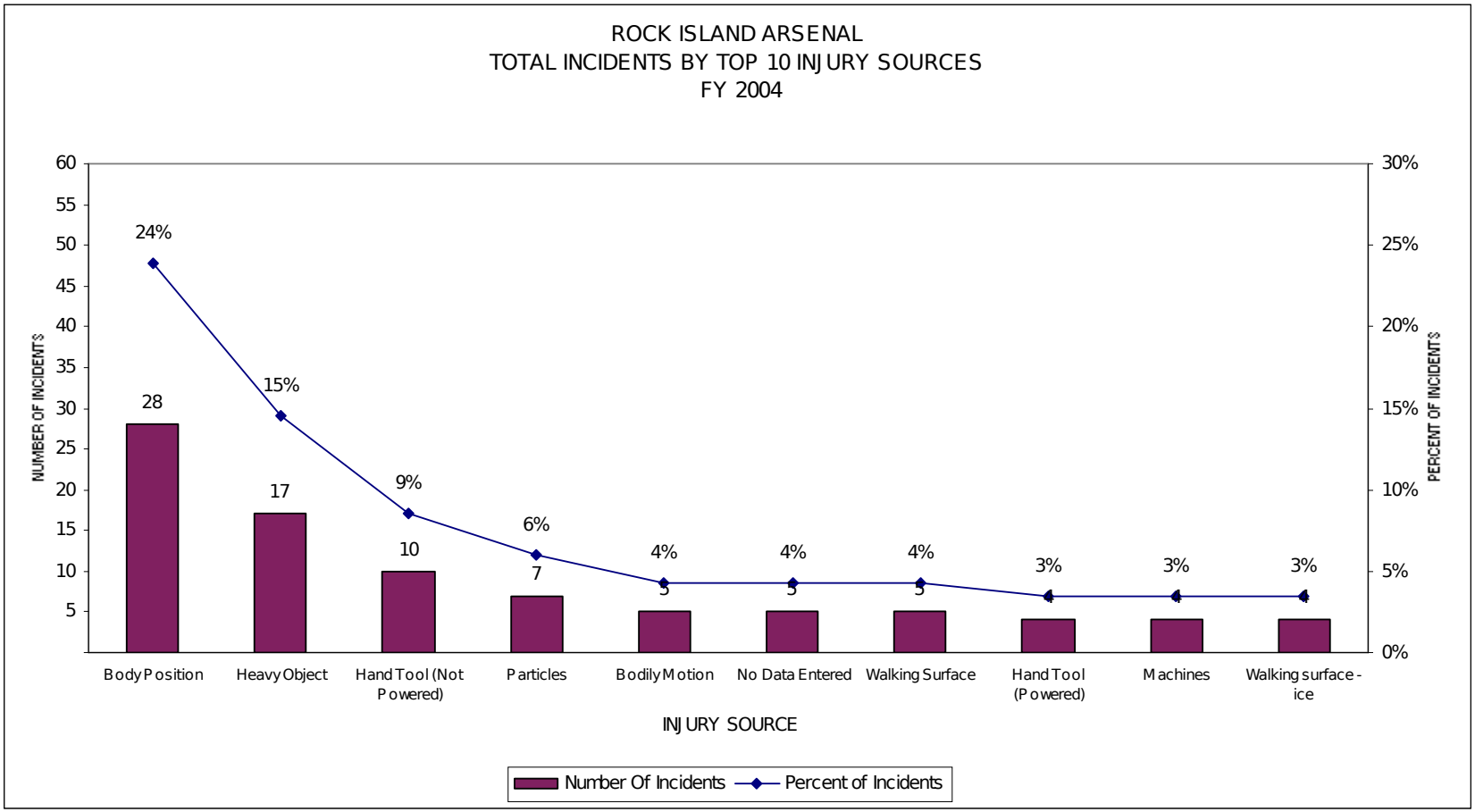

ROCK ISLAND ARSENAL
TOTAL INCIDENTS BY TOP 10 JOB TITLES
FY 2004
NUMBER OF INCIDEI
PERCENT OF INCIDE
50
40
30
20
10
25%
15%
5%
-5%
15%
6%
6%
5%
5%
4%
3%
3%
3%
3%
18
7
7
6
6
5
4
4
3
3
MACHINIST
EQUIPMENT REPAIRER (FORK LIFT)
PRODUCTION MACHINERY MECHANIC
EQUIPMENT INSTALLER
WELDER
PAINTER
EQUIPMENT REPAIRER
SANDBLASTER
FORKLIFT OPERATOR (MH)
MOLDER
JOB TITLE
Number Of Incidents
Percent of Incidents

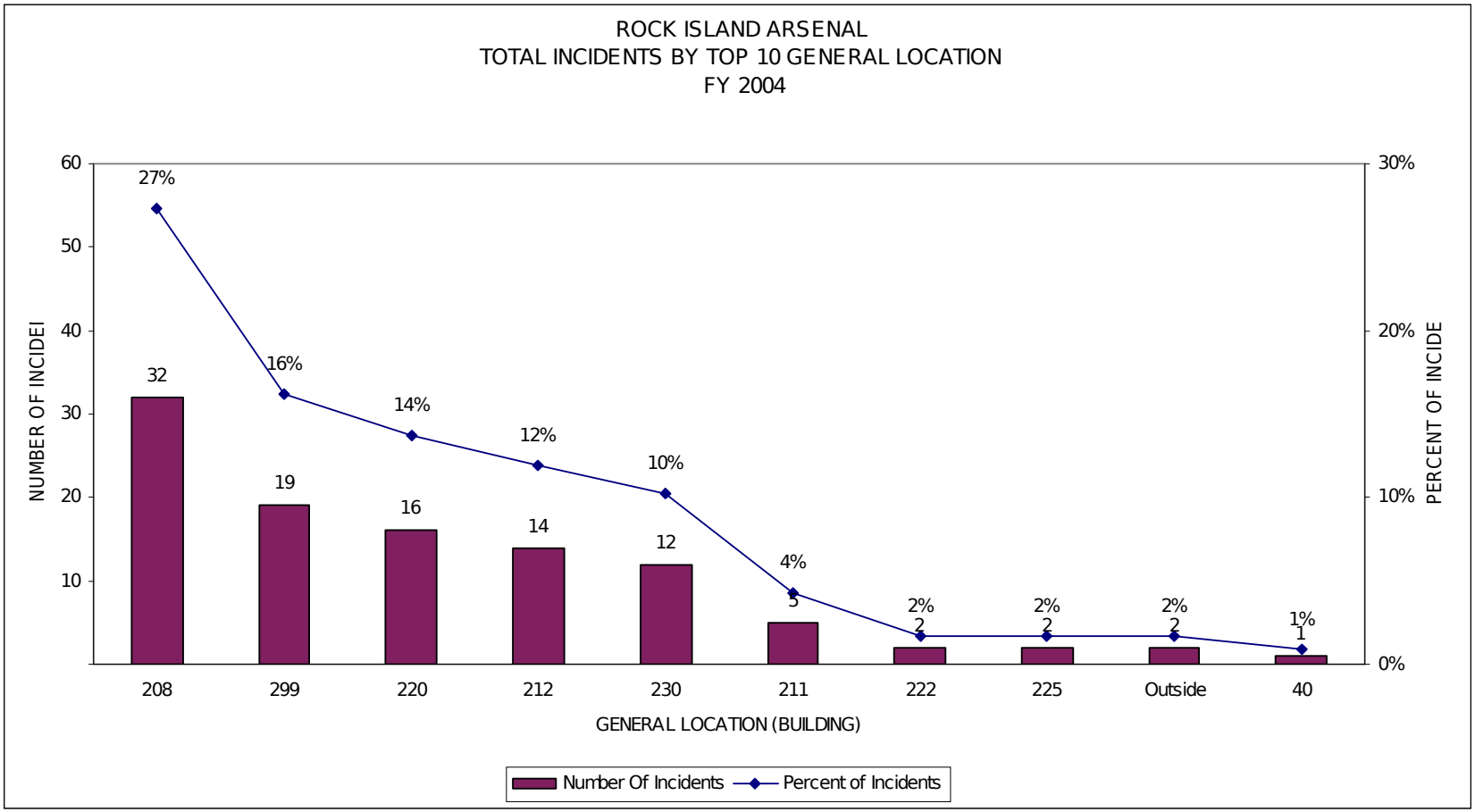

ROCK ISLAND ARSENAL
TOTAL INCIDENTS BY TOP 10 GENERAL TASKS
FY 2004
NUMBER OF INCIDENTS
PERCENT OF INCIDENTS
40
35
30
25
20
15
10
5
20%
15%
10%
5%
0%
15%
12%
11%
9%
7%
6%
5%
3%
3%
3%
17
14
13
11
8
7
6
4
4
3
Material Handling
Walking
Equipment/Machine Operations
Hand Tool (Not Powered)
Lifting Parts
Forklift Operations
Assembly Operations
Cleaning Parts
Other
Hand Tools (Powered)
GENERAL TASK
Number Of Incidents
Percent of Incidents

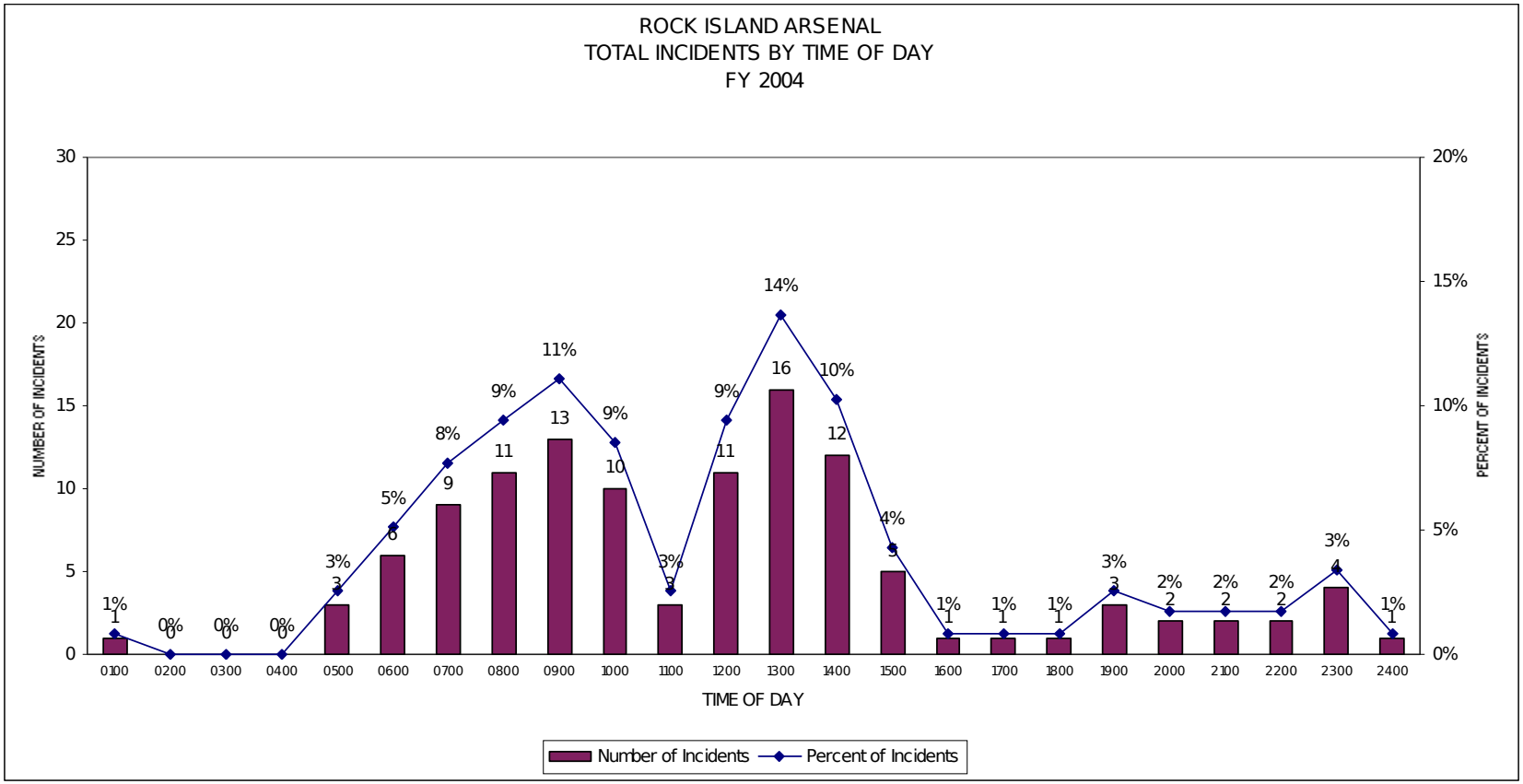

ROCK ISLAND ARSENAL
TOTAL INCIDENTS BY TOP 10 CAUSES OF ACCIDENTS
FY 2004
NUMBER OF INCIDENTS
PERCENT OF INCIDENTS
60
50
40
30
20
10
30%
25%
20%
15%
10%
5%
0%
26%
14%
11%
9%
8%
8%
7%
4%
4%
3%
30
16
13
10
9
9
8
5
5
3
Struck By
Struck Against
Caught In/Under/Between
Overexertion
Airborn Particle
Bodily Reaction
Fall On Same Level
Fall From Elevation
No Data Entered
Contact w/Temperature Extremes
CAUSES OF ACCIDENTS
Number Of Incidents
Percent of Incidents


ROCK ISLAND ARSENAL
TOTAL INCIDENTS BY TOP 10 INJURY TYPES
FY 2004
NUMBER OF INCIDEI
PERCENT OF INCIDE
60
50
40
30
20
10
25%
20%
15%
10%
5%
0%
21%
13%
9%
9%
6%
6%
4%
4%
4%
4%
24
15
11
11
7
7
5
5
5
5
Strain
Cut/Laceration
Foreign Body
Laceration
Fracture
Other
Avulsion
Contusions/Crush/Bruise
Contusions/Cuts/Bruise
No Data Entered
INJURY TYPE
Number Of Incidents
Percent of Incidents


ROCK ISLAND ARSENAL
TOTAL INCIDENTS BY TOP 10 BODY PARTS
FY 2004
NUMBER OF INCIDEI
PERCENT OF INCIDE
60
50
40
30
20
10
30%
25%
20%
15%
10%
5%
0%
25%
9%
9%
9%
7%
6%
5%
4%
3%
3%
29
10
10
10
8
7
6
5
3
3
Finger / Thumb
Back
Eye
Hand
Shoulder
Leg
Head
Knee
Ankle
Arm
BODY PART
Number Of Incidents
Percent of Incidents


ROCK ISLAND ARSENAL
TOTAL INCIDENTS BY TOP 10 INJURY SOURCES
FY 2004
NUMBER OF INCIDENTS
PERCENT OF INCIDENTS
60
55
50
45
40
35
30
25
20
15
10
5
30%
25%
20%
15%
10%
5%
0%
24%
15%
9%
6%
4%
4%
4%
3%
3%
3%
28
17
10
7
5
5
5
4
4
4
Body Position
Heavy Object
Hand Tool (Not Powered)
Particles
Bodily Motion
No Data Entered
Walking Surface
Hand Tool (Powered)
Machines
Walking surface - ice
INJURY SOURCE
Number Of Incidents
Percent of Incidents


ROCK ISLAND ARSENAL
TOTAL INCIDENTS BY TOP 10 GENERAL LOCATION
FY 2004
NUMBER OF INCIDEI
PERCENT OF INCIDE
60
50
40
30
20
10
30%
20%
10%
0%
27%
16%
14%
12%
10%
4%
2%
2%
2%
1%
32
19
16
14
12
5
2
2
2
1
208
299
220
212
230
211
222
225
Outside
40
GENERAL LOCATION (BUILDING)
Number Of Incidents
Percent of Incidents


ROCK ISLAND ARSENAL
TOTAL INCIDENTS BY TIME OF DAY
FY 2004
NUMBER OF INCIDENTS
PERCENT OF INCIDENTS
TIME OF DAY
0100 0200 0300 0400 0500 0600 0700 0800 0900 1000 1100 1200 1300 1400 1500 1600 1700 1800 1900 2000 2100 2200 2300 2400
1 0 0 0 3 6 9 11 13 10 3 11 16 12 5 1 1 1 3 2 2 2 4 1
1% 0% 0% 0% 3% 5% 8% 9% 11% 9% 3% 9% 14% 10% 4% 1% 1% 1% 3% 2% 2% 2% 3% 1%
Number of Incidents
Percent of Incidents

Accident Investigation

- **Commander Sets Policy on Conducting Accident Investigations.**
  - **All policies are formal and written.**
  - **Accidents are reported within 2 hours of the occurrence.**
  - **Accidents are investigated with 72 hours of the occurrence.**
  - **Safety After Accident Review (SAAR) Accident Investigation Report is completed for incident and forwarded.**
  - **SMCRI Form 60, Employee Dispensary and Status Form, shall be completed for all incidents requiring treatment at RIA Health Clinic.**

"All accidents, no matter how minor they appear, shall be reported and investigated according to established policies and procedures."

Associated Cost

FISCAL YEAR	MEDICAL	COMPENSATION (COMP)	CONTINUATION OF PAY (COP)	TOTAL
1996	372,365	700,460	24,767	$ 1,097,591
1997	225,005	721,323	32,069	$ 978,397
1998	214,058	668,587	6,970	$ 889,615
1999	79, 867	496,298	27,796	$ 603,961
2000	150,208	496,802	15,033	$ 662,042
2001	255,977	560,713	14,963	$ 831,653
2002	140,814	503,232	16,934	$ 660,980
2003	98,682	502,007	6,782	$ 607,471
2004	Not Available	Not Available	Not Available	Not Available
TOTAL	$ 1,536,976	$ 4,649,422	$ 145,313	$ 6,331,711

Cost Avoidance

Calculating Cost Avoidance:

Cost Avoidance = [(Base Year Lost Time Rate / Current Year Lost Time Rate) x (Current Year Total Cost)] - (Total Cost)

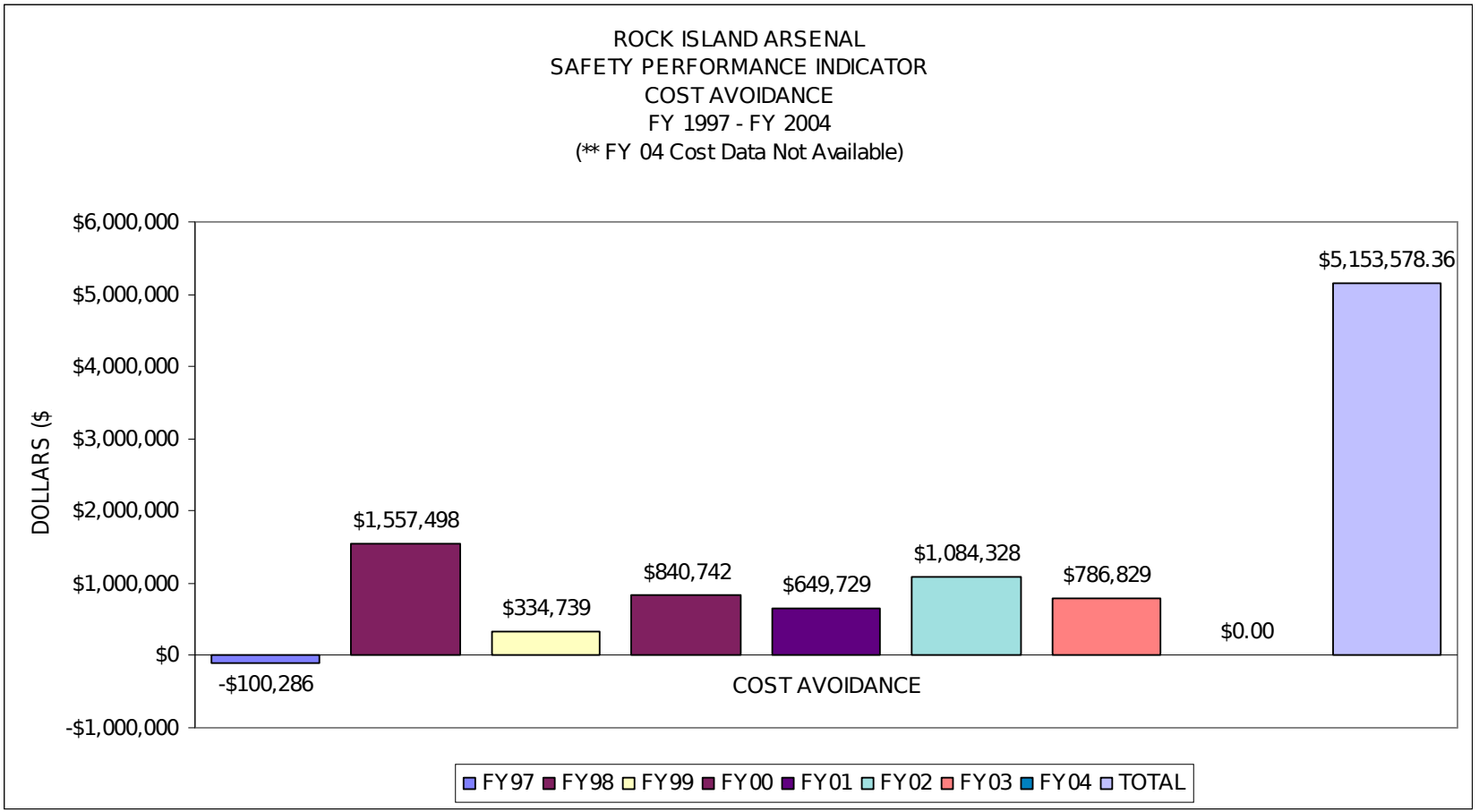
Example: Calculating FY03 Cost Avoidance using FY96 Lost Time Rate as the Base Year Lost Time Rate.

Cost Avoidance = [(2.51/1.09) x $ 607,471] - $ 607,471

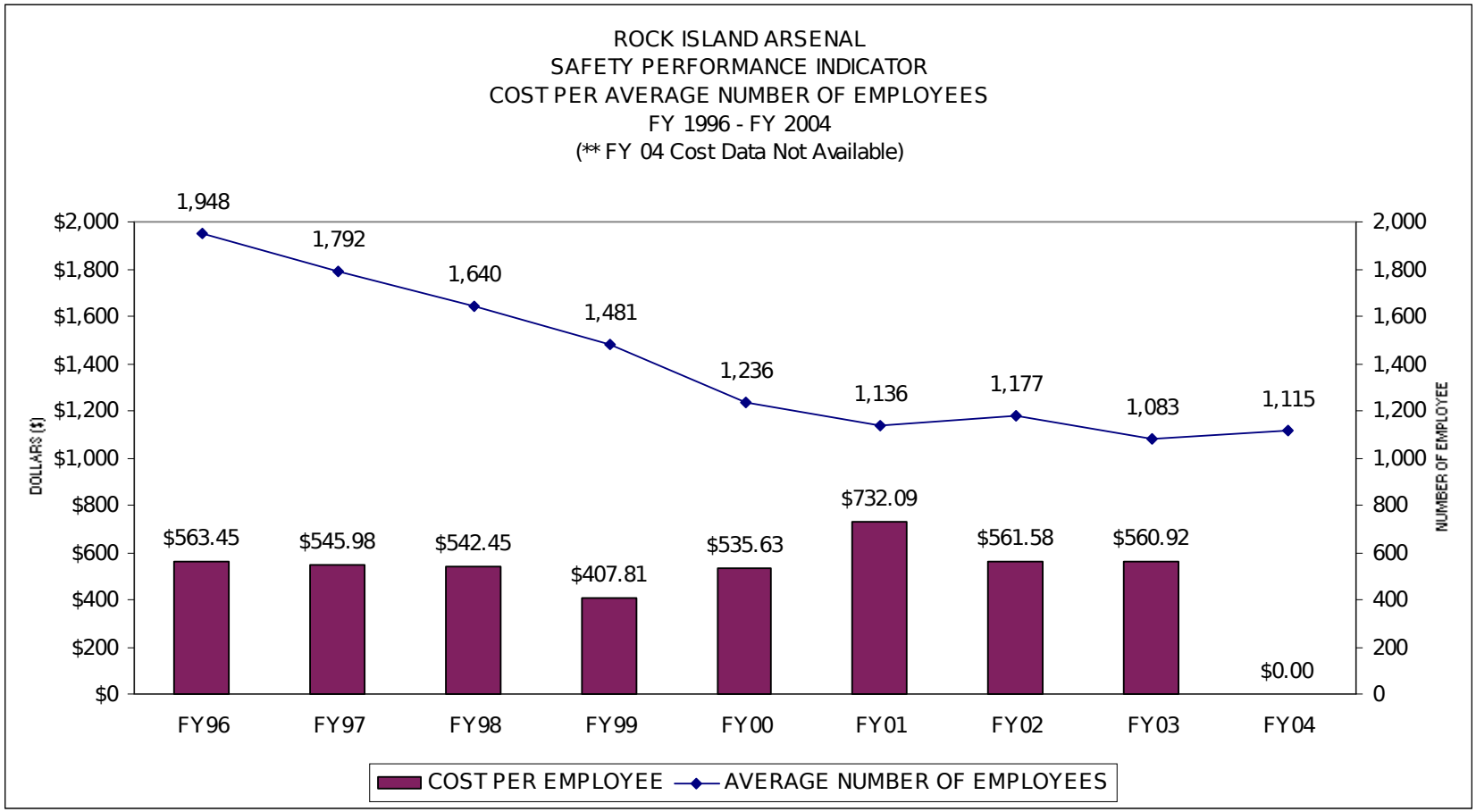
= $ 786,829

Note: Lost Time Rate is the best indicator for

Cost Avoidance



Cost Per Employee



ROCK ISLAND ARSENAL
CENTER FOR EXCELLENCE